Data Slides

February 13, 2025

1 Setup and Data

```
[4]: from inflation analysis import calculate price indexes, tri grouping,
      output_data, output_obs_table, price_index_over_time, __
      →top_abs_weight_differences, top_price_index_contributors,
      →tri_grouping_extended
[]: # Parameters
     start_year = 2014
     end_year = 2022
     data_folder="/Users/roykisluk/Downloads/Consumer_Expenditure_Survey/"
     top_n = 10
     base_year = start_year
     comparison_year = end_year
     # Grouping
     if start_year >= 2014: # After 2014, it is possible to identify secular,
      →conservative, and religious groups
        demo, income, ses, total_mmb = tri_grouping_extended(start_year, end_year,_
      cex_data_folder = data_folder)
     else:
        demo, income, ses, total_mmb = tri_grouping(start_year, end_year,_

cex_data_folder = data_folder)
[6]: # Prepare data: calculate price indexes for each group, secondary and primary.
     ⇔categories, and total
     demo_analysis, demo_mmb = output_data(demo, start_year, end_year, base_year,_u
      →top_n, data_folder)
     income_analysis, income_mmb = output_data(income, start_year, end_year,_
     ⇒base_year, top_n, data_folder)
     ses_analysis, ses_mmb = output_data(ses, start_year, end_year, base_year,_u
     →top_n, data_folder)
     # General population
     print("Calculating price indexes for general population...")
```

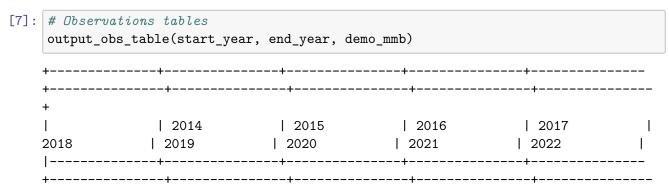
```
gen_pop_df, gen_pop_secondary_df, gen_pop_primary_df, __
 Gen_pop_yearly_price_index = calculate_price_indexes(start_year, end_year, ∟
 ⇒base_year, cex_data_folder=data_folder, verbose=False)
gen_pop = {
    'combined_secondary_df': gen_pop_secondary_df,
    'combined primary df': gen pop primary df,
    'yearly_price_index': gen_pop_yearly_price_index
}
print("Done.")
Group 1/7 (Secular) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.29it/s]
Calculating price indexes: 100% | 9/9 [00:13<00:00, 1.47s/it]
Group 1/7 (Secular) successfully computed.
Group 2/7 (Conservative) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.40it/s]
Calculating price indexes: 100%|
                                  | 9/9 [00:09<00:00, 1.01s/it]
Group 2/7 (Conservative) successfully computed.
Group 3/7 (Religious) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.42it/s]
Calculating price indexes: 100% | 9/9 [00:06<00:00, 1.39it/s]
Group 3/7 (Religious) successfully computed.
Group 4/7 (Haredi) started.
                            | 9/9 [00:06<00:00, 1.43it/s]
Loading price data: 100%|
Calculating price indexes: 100%
                                   | 9/9 [00:05<00:00, 1.71it/s]
Group 4/7 (Haredi) successfully computed.
Group 5/7 (Arabs) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.41it/s]
Calculating price indexes: 100%
                                  | 9/9 [00:06<00:00, 1.42it/s]
Group 5/7 (Arabs) successfully computed.
Group 6/7 (Young) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.42it/s]
Calculating price indexes: 100% | 9/9 [00:06<00:00, 1.34it/s]
Group 6/7 (Young) successfully computed.
Group 7/7 (Old) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.34it/s]
Calculating price indexes: 100% | 9/9 [00:06<00:00, 1.29it/s]
Group 7/7 (Old) successfully computed.
Group 1/10 (1) started.
```

```
Loading price data: 100% | 9/9 [00:06<00:00, 1.41it/s]
                                | 9/9 [00:05<00:00, 1.68it/s]
Calculating price indexes: 100%|
Group 1/10 (1) successfully computed.
Group 2/10 (2) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.37it/s]
Calculating price indexes: 100% | 9/9 [00:05<00:00, 1.63it/s]
Group 2/10 (2) successfully computed.
Group 3/10 (3) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.41it/s]
Calculating price indexes: 100% | 9/9 [00:05<00:00, 1.64it/s]
Group 3/10 (3) successfully computed.
Group 4/10 (4) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.46it/s]
Calculating price indexes: 100% | 9/9 [00:05<00:00, 1.64it/s]
Group 4/10 (4) successfully computed.
Group 5/10 (5) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.43it/s]
Calculating price indexes: 100% | 9/9 [00:05<00:00, 1.67it/s]
Group 5/10 (5) successfully computed.
Group 6/10 (6) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.43it/s]
Calculating price indexes: 100% | 9/9 [00:05<00:00, 1.67it/s]
Group 6/10 (6) successfully computed.
Group 7/10 (7) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.44it/s]
Calculating price indexes: 100% | 9/9 [00:05<00:00, 1.59it/s]
Group 7/10 (7) successfully computed.
Group 8/10 (8) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.45it/s]
Calculating price indexes: 100% | 9/9 [00:05<00:00, 1.56it/s]
Group 8/10 (8) successfully computed.
Group 9/10 (9) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.46it/s]
Calculating price indexes: 100% | 9/9 [00:05<00:00, 1.52it/s]
Group 9/10 (9) successfully computed.
Group 10/10 (10) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.34it/s]
Calculating price indexes: 100% | 9/9 [00:06<00:00, 1.40it/s]
```

```
Group 10/10 (10) successfully computed.
Group 1/5 (1) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.37it/s]
Calculating price indexes: 100% | 9/9 [00:05<00:00, 1.75it/s]
Group 1/5 (1) successfully computed.
Group 2/5 (2) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.44it/s]
Calculating price indexes: 100% | 9/9 [00:08<00:00, 1.09it/s]
Group 2/5 (2) successfully computed.
Group 3/5 (3) started.
                            | 9/9 [00:06<00:00, 1.42it/s]
Loading price data: 100%
Calculating price indexes: 100%
                               | 9/9 [00:11<00:00, 1.32s/it]
Group 3/5 (3) successfully computed.
Group 4/5 (4) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.42it/s]
Calculating price indexes: 100%|
                                  | 9/9 [00:10<00:00, 1.12s/it]
Group 4/5 (4) successfully computed.
Group 5/5 (5) started.
Loading price data: 100% | 9/9 [00:06<00:00, 1.38it/s]
Calculating price indexes: 100%| | 9/9 [00:03<00:00, 2.71it/s]
Group 5/5 (5) successfully computed.
Calculating price indexes for general population...
Loading price data: 100% | 9/9 [00:06<00:00, 1.43it/s]
Calculating price indexes: 100% | 9/9 [00:26<00:00, 2.92s/it]
Done.
```

2 Output

2.1 Tables



```
| Secular | 3909 (46.23%) | 3736 (43.75%) | 4021 (45.24%) | 4114 (45.83%) |
4055 (46.34%) | 3668 (46.96%) | 2750 (49.71%) | 2690 (44.65%) | 2294 (41.99%) |
| Conservative | 2242 (26.52%) | 2409 (28.21%) | 2395 (26.94%) | 2455 (27.35%) |
2370 (27.08%) | 2117 (27.1%) | 1460 (26.39%) | 1577 (26.18%) | 1602 (29.32%) |
            | 1140 (13.48%) | 1257 (14.72%) | 1244 (13.99%) | 1290 (14.37%) |
1185 (13.54%) | 1218 (15.59%) | 809 (14.62%) | 1035 (17.18%) | 808 (14.79%) |
| Haredi
            | 642 (7.59%)
                           | 734 (8.59%) | 778 (8.75%) | 757 (8.43%)
786 (8.98%)
           | 565 (7.23%) | 440 (7.95%) | 551 (9.15%) | 595 (10.89%)
| Arabs
            | 1154 (13.65%) | 1136 (13.3%) | 1273 (14.32%) | 1327 (14.78%) |
1145 (13.08%) | 1103 (14.12%) | 513 (9.27%) | 951 (15.79%) | 727 (13.31%) |
            | 1302 (15.4%) | 1340 (15.69%) | 1354 (15.23%) | 1358 (15.13%) |
1278 (14.6%) | 1108 (14.19%) | 718 (12.98%) | 877 (14.56%) | 820 (15.01%) |
            | 1711 (20.24%) | 2091 (24.48%) | 2372 (26.68%) | 2348 (26.16%) |
2375 (27.14%) | 2279 (29.18%) | 1786 (32.28%) | 1779 (29.53%) | 1663 (30.44%) |
         | 8455 (100.0%) | 8540 (100.0%) | 8889 (100.0%) | 8977 (100.0%) |
8751 (100.0%) | 7811 (100.0%) | 5532 (100.0%) | 6024 (100.0%) | 5463 (100.0%) |
+-----
```

[8]: output_obs_table(start_year, end_year, income_mmb)

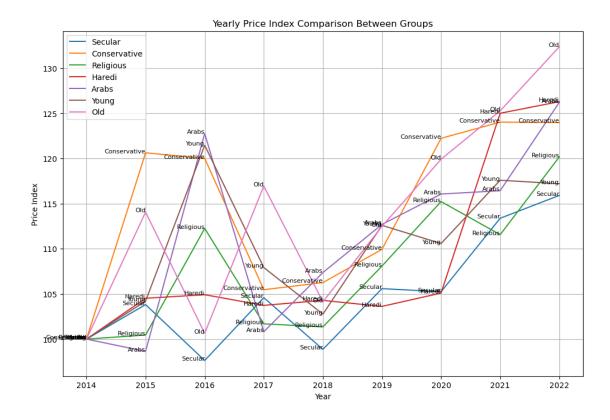
```
| 2014
                 | 2015 | 2016 | 2017
           | 2020
                       | 2021
                                  | 2022
|-----
   | 929 (10.99%) | 873 (10.22%) | 890 (10.01%) | 940 (10.47%) | 880
(10.06%) | 646 (8.27%) | 397 (7.18%) | 503 (8.35%) | 515 (9.43%)
                                                      940 (11.12%) | 929 (10.88%) | 948 (10.66%) | 1018 (11.34%) | 931
(10.64\%) | 710 (9.09\%) | 474 (8.57\%) | 517 (8.58\%) | 537 (9.83\%)
                                                      906 (10.72%) | 927 (10.85%) | 928 (10.44%) | 916 (10.2%)
                                                     1 921
(10.52%) | 708 (9.06%) | 495 (8.95%)
                               | 548 (9.1%)
                                         | 554 (10.14%)
     (9.83%) | 759 (9.72%) | 483 (8.73%) | 563 (9.35%) | 562 (10.29%) |
| 5
     | 802 (9.49%)
                 | 832 (9.74%) | 849 (9.55%) | 874 (9.74%)
                                                     I 896
(10.24%) | 748 (9.58%)
                 | 527 (9.53%)
                              | 589 (9.78%)
                                          | 516 (9.45%)
                                                       - 1
     | 792 (9.37%) | 816 (9.56%)
                            | 871 (9.8%)
                                        | 869 (9.68%)
                                                     822
                 | 560 (10.12%) | 608 (10.09%) | 545 (9.98%)
(9.39%) | 776 (9.93%)
                            | 879 (9.89%)
| 7
     | 786 (9.3%)
                 | 830 (9.72%)
                                         | 863 (9.61%)
                                                      856
(9.78\%)
      | 781 (10.0%)
                 | 586 (10.59%) | 595 (9.88%)
                                           | 536 (9.81%)
                                                      8
     | 817 (9.66%) | 814 (9.53%) | 875 (9.84%)
                                        | 885 (9.86%)
                                                     860
     | 851 (10.89%) | 639 (11.55%) | 655 (10.87%) | 551 (10.09%)
(9.83\%)
                                                      | 818 (9.58%)
                            | 888 (9.99%)
                                        | 861 (9.59%)
     | 828 (9.79%)
                                                     870
(9.94%) | 891 (11.41%) | 654 (11.82%) | 712 (11.82%) | 550 (10.07%) |
| 10 | 842 (9.96%) | 849 (9.94%) | 882 (9.92%) | 880 (9.8%) | 896
```

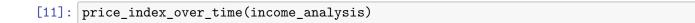
```
(10.24%) | 957 (12.25%) | 778 (14.06%) | 767 (12.73%) | 612 (11.2%)
   | Total | 8455 (100.0%) | 8540 (100.0%) | 8889 (100.0%) | 8977 (100.0%) | 8751
   (100.0%) | 7811 (100.0%) | 5532 (100.0%) | 6024 (100.0%) | 5463 (100.0%) |
   +----+
[9]: output_obs_table(start_year, end_year, ses_mmb)
   | 2014
                    2015
                               | 2016
                                           | 2017
                                                       | 2018
   | 2019
              1 2020
                          | 2021
                                     | 2022
   |-----
   _______
        | 612 (7.24%) | 616 (7.21%) | 695 (7.82%) | 728 (8.11%) | 654
   (7.47%) | 1146 (14.67%) | 807 (14.59%) | 1204 (19.99%) | 1211 (22.17%) |
        | 1912 (22.61%) | 1916 (22.44%) | 2021 (22.74%) | 1977 (22.02%) | 1882
   (21.51%) | 1017 (13.02%) | 564 (10.2%) | 804 (13.35%) | 753 (13.78%) |
       | 3415 (40.39%) | 3495 (40.93%) | 3523 (39.63%) | 3627 (40.4%) | 3624
   (41.41%) | 1911 (24.47%) | 1490 (26.93%) | 1503 (24.95%) | 1352 (24.75%) |
        | 2420 (28.62%) | 2402 (28.13%) | 2569 (28.9%) | 2583 (28.77%) | 2505
   (28.63%) | 3564 (45.63%) | 2556 (46.2%) | 2393 (39.72%) | 2016 (36.9%) |
       | 106 (1.25%) | 121 (1.42%) | 95 (1.07%) | 102 (1.14%)
   (1.45\%) | 189 (2.42\%) | 163 (2.95\%) | 153 (2.54\%) | 146 (2.67\%)
   | Total | 8455 (100.0%) | 8540 (100.0%) | 8889 (100.0%) | 8977 (100.0%) | 8751
   (100.0%) | 7811 (100.0%) | 5532 (100.0%) | 6024 (100.0%) | 5463 (100.0%) |
   ______
```

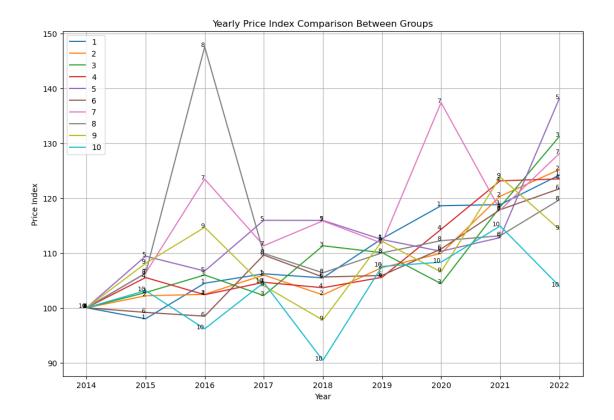
2.2 Plots

2.2.1 Yearly Price Index Comparison Between Groups

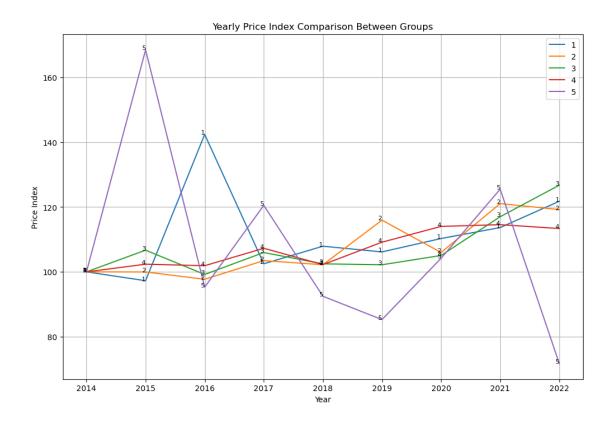
[10]: price_index_over_time(demo_analysis)



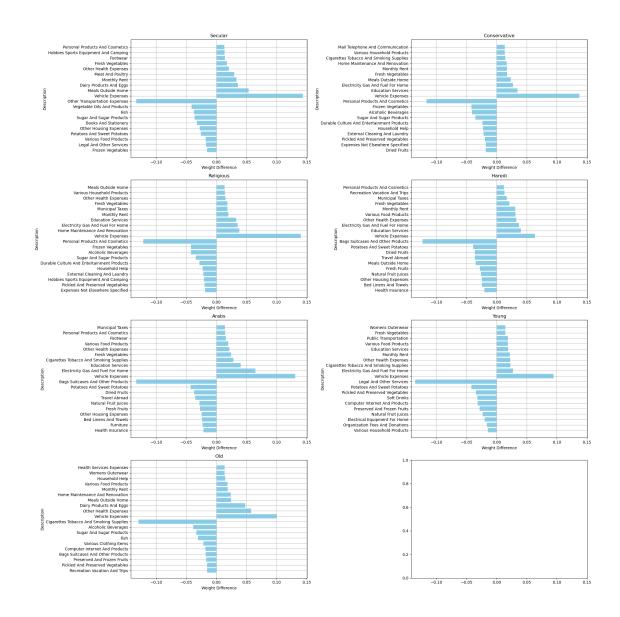




[12]: price_index_over_time(ses_analysis)



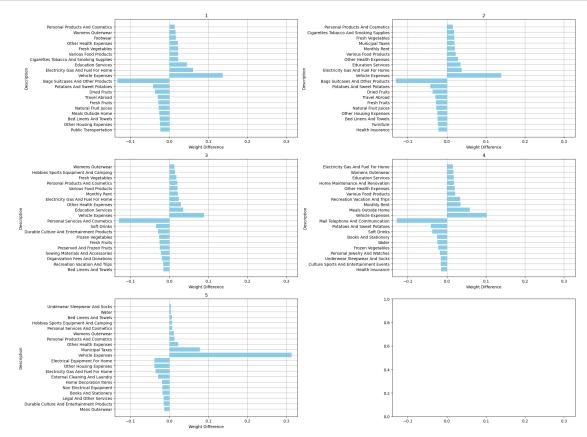
2.2.2 Top Weight Differences





[16]: # Top weight differences - SES groups
ses_comparison_groups = {}
for group in ses_analysis:

```
ses_comparison_groups[group] = []
ses_analysis[group]['combined_secondary_df'][ses_analysis[group]['combined_secondary_df']['
ses_analysis[group]['combined_secondary_df']['
ses_analysis['combined_secondary_df']['
ses_analysis['combined_secondary_df']['
ses_analysis['combined_secondary_df']['
ses_analysis['combined_secondary_df']['
ses_analysis['combined_secondary_df']['
ses_analysis['combined_
```



2.2.3 Top Contributors to CPI Change

```
Top 10 contributors to price index for Secular:
+----+-----+------+
| Year | prodcode | price_index | weight | description
| contribution |
```

```
I 566 I
        2022 |
                   378 I
                             89.9925 | 0.00519418 | Computer Internet And
Products |
             -0.32681 |
l 569 l
                             99.5922 | 0.152999
        2022 I
                   383 l
                                               | Vehicle Expenses
     -0.392279
| 570 |
        2022
                   384 l
                             89.0032 | 0.00622973 | Other Transportation
Expenses
              -0.430714 |
| 545 |
        2022 |
                                    | 0.00591532 | Bed Linens And Towels
                   344
     -0.488311
        2022 |
                             81.7588 | 0.00579357 | Water
| 536 |
                   331 |
     -0.664437
                                               | Personal Products And
| 574 |
        2022 |
                   393
                             95.3545 | 0.022941
              -0.670033 |
Cosmetics |
| 549 |
        2022 |
                   353
                             83.0515 | 0.00897687 | Childrens And Infants
Outerwear |
             -0.956554 l
| 548 |
        2022 |
                   352 l
                             91.3138 | 0.0227588 | Womens Outerwear
     -1.24289
        2022 |
                             78.544 | 0.0106267 | Travel Abroad
| 568 |
                   382
     -1.43351 |
| 563 |
        2022 |
                   374 l
                             65.6091 | 0.0284309 | Recreation Vacation
               -6.14735
And Trips |
l 559 l
        2022 I
                   364 l
                            154.784 | 0.0310156 | Other Health Expenses
     10.6829
| 524 |
        2022 l
                   308
                            125.379
                                   1 0.0602227
                                               | Meals Outside Home
      9.60925
        2022 |
                            138.432 | 0.0356662
                                              | Education Services
| 560 |
                   371
      8.61797
        2022 |
                             123.729
                                               | Dairy Products And
| 520 |
                   304
                                    0.0468637
                 6.99138 |
Eggs
          l 516 l
        2022 I
                   300 |
                            124.985 | 0.0408788 | Bread Grains and
Pastries
                  6.42143
| 518 |
        2022 |
                   302
                            127.305 | 0.037113
                                               | Meat And Poultry
      6.37132
| 538 |
        2022
                   333
                            147.374 | 0.0213389 | Home Maintenance And
Renovation |
               6.35573 I
| 543 |
        2022
                   342 l
                            154.501 | 0.015947
                                               | Electrical Equipment
For Home
               5.46429 |
        l 525 l
        2022 |
                   309 I
                            123.901 | 0.0266756 | Various Food Products
      4.00845 |
| 527 |
        2022 |
                   312 |
                            128.462 | 0.0209409 | Fresh Vegetables
      3.74731
Top 10 contributors to price index for Conservative:
-----+
       Year | prodcode | price_index | weight | description
```

```
contribution |
-----|
                              99.4088 | 0.00303119 | Books And Stationery
| 557 |
        2022 |
                    372 |
    -0.00747284
                    356 l
                              93.9265 | 0.000690587 | Sewing Materials And
| 548 |
        2022 |
Accessories
                       -0.0174905
l 550 l
        2022 I
                    358 l
                              99.2861 | 0.0196068
                                                 | Footwear
    -0.0583691
I 573 I
        2022 I
                    396 l
                              97.1972 | 0.00828651 | Bags Suitcases And
Other Products
                        -0.0968515
| 560 |
        2022 |
                    375 l
                                                 | Durable Culture And
                              74.7173 | 0.00580631
Entertainment Products |
                       -0.612163
                              60.7187 | 0.00417253
| 541 |
        2022 l
                    344 l
                                                 | Bed Linens And
Towels
                            -0.683485
I 556 I
                              94.941 | 0.0372071
                                                 | Education Services
        2022
                    371
    -0.784938
                              80.5107 | 0.0119751
| 538 |
        2022 |
                    341
                                                 | Furniture
    -0.973244
l 564 l
        2022 I
                    382
                              35.8099 | 0.0111075
                                                 | Travel Abroad
    -2.97323
| 565 |
        2022 |
                    383 |
                              88.4713 | 0.144016
                                                 | Vehicle Expenses
    -6.92363
        2022 I
                    373 I
                             500.694 | 0.00834155 | Culture Sports And
I 558 I
Entertainment Events
                       13.9381
                    | 514 |
        2022 |
                    302 |
                             149.906 | 0.0572533
                                                 | Meat And Poultry
    11.915
| 512 |
        2022 |
                    300 |
                             146.792 | 0.0494098
                                                 | Bread Grains and
Pastries
                           9.64118
                                    1
| 516 |
                    304 |
                              138.328
                                     0.0455244
                                                 | Dairy Products And
        2022
                         7.27618
Eggs
| 555 |
        2022 |
                    364 |
                             153.46
                                     0.0271097
                                                 | Other Health
Expenses
                              6.0436
                                        1
| 537 |
                    336 |
                             182.987 | 0.0174466
                                                 | Municipal Taxes
        2022 |
     6.03759
| 518 |
        2022 I
                    306
                             171.974 | 0.0137384
                                                 | Soft Drinks
     4.12342
| 520 |
        2022 I
                    308 l
                             127.934 | 0.0345013
                                                 | Meals Outside Home
     4.01901
l 523 l
        2022 I
                    312
                             131.724 | 0.0287858
                                                 | Fresh Vegetables
     3.80813
| 521 |
                    309 I
                             126.309 | 0.0298919
        2022
                                                 | Various Food
                              3.27948
                                       Products
-----+
Top 10 contributors to price index for Religious:
----+
```

```
| Year | prodcode | price_index | weight | description
| contribution |
|----+-----
                 382 | 98.6177 | 0.0062039 | Travel Abroad
| 564 | 2022 |
-0.0425243 |
| 551 | 2022 | 359 |
Elsewhere Specified | -0
| 513 | 2022 | 301 |
                 359 l
                        81.9172 | 0.00409703 | Outerwear Not
                       -0.367378
                          91.5726 | 0.010723 | Vegetable Oils And
                  -0.448116
Products
              | 559 | 2022 |
              374 | 91.4126 | 0.0145867 | Recreation Vacation
             | -0.62115 |
And Trips
| 537 | 2022 |
                      91.9293 | 0.0259436 | Municipal Taxes
                 336 |
   -1.0383 |
              341 | 77.9509 | 0.0107036 | Furniture
| 538 |
       2022 |
   -1.17031 |
| 544 |
       2022 |
                 352 | 85.3549 | 0.0202519 | Womens Outerwear
    -1.47074
               385 | 72.2248 | 0.0155641 | Mail Telephone And
| 567 |
       72.2
510n | -2.14368 |
2022 | 362 |
       2022 |
Communication
l 553 l
                362 | 38.1048 | 0.00815317 | Dental Care
    -2.50243
               333 | 64.3794 | 0.0393873 | Home Maintenance And
| 534 | 2022 |
Renovation |
                 -6.95722
                342 |
| 539 | 2022 |
                         318.568 | 0.0128422 | Electrical Equipment
For Home
                 13.9189
| 512 | 2022 |
                 300 | 137.487 | 0.0530547 | Bread Grains and
Pastries
                9.86246
                 304 | 134.045 | 0.0427873 | Dairy Products And
| 516 |
       2022
Eggs
                   7.2235
| 565 |
       2022 |
                 383 | 108.262 | 0.147394 | Vehicle Expenses
    6.03839
                 322 | 151.121 | 0.0221327 | Monthly Rent
| 530 |
       2022 |
     5.61065
                 302 | 118.458 | 0.0608063 | Meat And Poultry
| 514 |
       2022 |
     5.56563
                332 | 125.815 | 0.0420068 | Electricity Gas And
       2022 |
| 533 |
Fuel For Home
             - 1
                  5.37731
| 558 | 2022 |
                 373 | 236.753 | 0.00792576 | Culture Sports And
Entertainment Events | 5.37473 |
                306 | 164.299 | 0.0143379 | Soft Drinks
| 518 | 2022 |
   4.57165 |
| 520 | 2022 |
                 308 | 132.452 | 0.0249348 | Meals Outside Home
  4.01256
-----+
Top 10 contributors to price index for Haredi:
```

```
| Year | prodcode | price_index | weight | description
   contribution |
-----|
                             96.014 | 0.0154709 | Recreation Vacation
| 556 |
                   374 |
And Trips
                   -0.234564
| 542 |
        2022
                   353
                             96.4975 | 0.0178572 | Childrens And Infants
                  -0.237905
Outerwear |
                             97.0642 | 0.0343529 | Monthly Rent
| 527 |
        2022
                   322 l
     -0.383615 |
        2022 |
                   398
| 572 |
                             76.3228 | 0.00672771 | Expenses Not
Elsewhere Specified
                   -0.60591
                             77.6008 | 0.00756791 | Other Transportation
| 563 |
        2022
                   384 |
Expenses
            -0.644792 |
                             54.462 | 0.00418396 | Personal Jewelry And
| 569 |
        2022
                   395 l
Watches
             -
                   -0.724724 |
| 564 |
        2022 |
                   385 |
                             70.4385 | 0.0099662 | Mail Telephone And
Communication
                    -1.12064
              1
l 570 l
        2022 I
                   396
                             81.4079 | 0.0165938 | Bags Suitcases And
Other Products
                    -1.17351
| 534 |
        2022
                   336 |
                             78.3189 | 0.0180558 | Municipal Taxes
     -1.48905
        2022 |
                   362 |
                            67.5589 | 0.0165571 | Dental Care
| 550 |
     -2.04311
        2022 |
                            155.286 | 0.048338
| 511 |
                   302 |
                                               | Meat And Poultry
     10.1651
| 562 |
        2022 |
                   383 |
                           138.604 | 0.0678192 | Vehicle Expenses
      9.95864
| 560 |
        2022 |
                   381 |
                            167.306 | 0.0377573 | Public Transportation
      9.66642
| 530 |
        2022 |
                   332 l
                            162.567 | 0.039061
                                               | Electricity Gas And
Fuel For Home
                    9.296
                            1
| 509 |
        2022 |
                   300 |
                            123.151 | 0.0747363 | Bread Grains and
Pastries
                      6.58125
| 513 |
        2022
                   304 |
                             126.962 | 0.062
                                               | Dairy Products And
                     6.35857
Eggs
I 520 I
        2022 |
                   312 l
                            133.026 | 0.0320835 | Fresh Vegetables
      4.03046
        2022 |
| 558 |
                   376 |
                            177.104 | 0.012544
                                               | Hobbies Sports
Equipment And Camping |
                        3.67895
| 532 |
        2022 |
                   334 |
                            184.542 | 0.01133
                                               | Household Help
      3.64346
                           123.391 | 0.0389825 | Various Food Products
        2022 |
| 518 |
                   309 |
      3.46848
-----+
```

Top 10 contributors to price index for Arabs:

				-+
	prodcode pr		weight	description
contribution				
•				-+
	+		I 0 00E9096	Modal Tolombono And
	-0.194586		0.0258086	Mail Telephone And
	359		0 00353843	Nuterwear Not
Elsewhere Specifi	ied -0.2	00994 I	0.0000010	Juvelweal Nov
			0.0193841	Personal Products And
Cosmetics	-0.209511			
			0.0148425	Vegetable Oils And
Products	-0.273387	1		G
554 2022	372	66.3604	0.00219518	Books And Stationery
-0.281754	1			
559 2022	378	76.0945	0.00362341	Computer Internet And
Products	-0.330495			
		76.1356	0.00414082	Bed Linens And Towels
-0.377038	1			
	341	56.9588	0.00602222	Furniture
-0.988987		77 0074		1 TT - M
			0.0118888	Home Maintenance And
	-1.0026 352		l 0 0247012	Womens Outerwear
-1.26359		00.0414	0.024/312	womens outerwear
		201 868	0 0449276	Bread Grains and
Pastries	17.4622	1	0.0110210	, broad drains and
511 2022	302	142.769	0.0885504	Meat And Poultry
14.4501				·
513 2022	304	143.573	0.03846	Dairy Products And
Eggs	6.39402 306	1		
515 2022	306	199.019	0.0157401	Soft Drinks
5.94671	1			
517 2022	308	159.245	0.025029	Meals Outside Home
5.65773				
520 2022	312	140.272	0.0355321	Fresh Vegetables
5.45969		450		
534 2022	336	172	0.0156874	Municipal Taxes
•	202	107 745	L 0 125064	Wahiala E-manaa
562 2022 3.991	383	107.745	0.135064	Vehicle Expenses
530 2022	332	115 0/15	0.0668388	Electricity Gas And
Fuel For Home		110.040	0.000000	1 LIECUITOTUY GAS AIIG
558 2022	376	139.244	0.0208989	Hobbies Sports
	mping 3.12		, 0.020000	, monoton photon
				-+

Top 10 contributors to price index for Young:

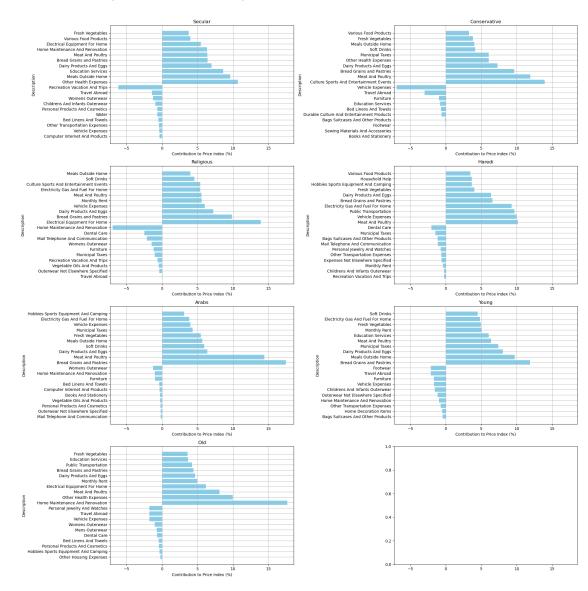
++ Year prodcode price_index weight description contribution +	es And on Items
+	es And ion Items
572 2022 396 92.8536 0.0101931 Bags Suitcase Other Products -0.423405	es And ion Items
572 2022 396 92.8536 0.0101931 Bags Suitcase Other Products -0.423405 541 2022 345 85.1355 0.00595875 Home Decorati -0.514836 565 2022 384 80.9582 0.00661473 Other Transpose Expenses -0.732123	on Items
Other Products -0.423405	on Items
541 2022 345 85.1355 0.00595875 Home Decoration -0.514836 80.9582 0.00661473 Other Transport 565 2022 384 80.9582 0.00661473 Other Transport 533 2022 333 90.4661 0.0173099 Home Maintena Renovation -0.959242 550 2022 359 42.4665 0.00350473 Outerwear Not	ortation
565 2022 384 80.9582 0.00661473 Other Transport Expenses -0.732123	
Expenses -0.732123	
533 2022 333 90.4661 0.0173099 Home Maintena Renovation -0.959242 550 2022 359 42.4665 0.00350473 Outerwear Not	
Renovation -0.959242	
550 2022 359 42.4665 0.00350473 Outerwear Not	ince And
	-
	,
544 2022 353 71.1477 0.00938386 Childrens And	lInfants
Outerwear -1.57371	
564 2022 383 97.5235 0.116183 Vehicle Expen	ıses
-1.67243	
537 2022 341 82.8686 0.0168098 Furniture	
-1.67385 563 2022 382 65.1486 0.0103464 Travel Abroad	i
-2.09591	L
549 2022 358 82.368 0.0205042 Footwear	
-2.1014	
511 2022 300 140.58 0.0502371 Bread Grains	and
Pastries 11.8494	
519 2022 308 133.613 0.0497839 Meals Outside 9.72652	Home
9.72052 515 2022 304 130.738 0.0449988 Dairy Product	e And
Eggs 8.03964	,b Alia
536 2022 336 181.949 0.0155164 Municipal Tax	es
7.39093	
513 2022 302 121.205 0.0516246 Meat And Poul	try
6.36296	_
555 2022 371 129.067 0.0359203 Education Ser	rvices
6.06889 529 2022 322 122.057 0.0390886 Monthly Rent	
5.01136	
522 2022 312 133.447 0.0254743 Fresh Vegetab	oles
4.95249	
532 2022 332 130.202 0.0274779 Electricity G	as And
Fuel For Home 4.82381	
517 2022 306 154.704 0.0142116 Soft Drinks	
4.51881	

----+

Top 10 contributors to price index for Old:

| Year | prodcode | price_index | weight | description contribution | |----+----------| 58.6786 | 0.00180675 | Other Housing | 533 | 2022 324 | Expenses -0.230704 376 | 92.2031 | 0.014504 | Hobbies Sports | 563 | 2022 | Equipment And Camping | -0.349457 | | 572 | 393 | 2022 | 93.1725 | 0.0209057 | Personal Products And -0.441075 Cosmetics | 543 | 2022 | 344 71.7184 | 0.00533425 | Bed Linens And Towels -0.466187 | | 555 | 2022 | 362 | 83.3308 | 0.0135521 | Dental Care -0.69808 | 545 | 2022 | 351 | 64.9884 | 0.0069352 | Mens Outerwear -0.750333 | | 546 | 2022 352 83.0314 | 0.0194993 | Womens Outerwear -1.02246 | 567 | 2022 | 383 l 94.5295 | 0.104889 | Vehicle Expenses -1.77313 | 566 | 2022 | 382 | 45.347 | 0.0105424 | Travel Abroad -1.78047 | 574 | 2022 | 395 | 27.1591 | 0.0079232 | Personal Jewelry And Watches -1.78344 | 536 | 2022 | 333 | 324.827 | 0.0254387 | Home Maintenance And Renovation 17.6737 | 557 | 2022 | 364 l 153.419 | 0.0604453 | Other Health Expenses 9.97803 | | 516 | 2022 | 302 145.493 | 0.057642 | Meat And Poultry 8.10345 2022 | 210.063 | 0.0182019 | Electrical Equipment | 541 | 342 | 6.19072 | For Home | 532 | 2022 322 | 183.469 | 0.0192858 | Monthly Rent 4.97443 l 2022 I 304 | 127.351 | 0.0553043 | Dairy Products And | 518 | 4.67422 Eggs | 514 | 2022 | 300 | 131.271 | 0.0457951 | Bread Grains and 4.42533 Pastries | 565 | 2022 | 381 | 192.63 | 0.0148011 | Public Transportation 4.23672 371 | 226.192 | 0.00946639 | Education Services | 558 | 2022 | 3.69147 | 525 | 2022 | 312 | 133.301 | 0.0351801 | Fresh Vegetables 3.62023





```
[18]: # Top contributors - income groups
income_yearly_price_indexes = {}
for group in income_analysis:
    income_yearly_price_indexes[group] =
    income_analysis[group]['yearly_price_index'][comparison_year]
    top_price_index_contributors(income_comparison_groups,
    income_yearly_price_indexes, top_n)
```

```
| Year | prodcode | price_index | weight | description
   contribution |
|----+-----
        2022 I
                   324 l
                            847.826 | 1.11658e-05 | Other Housing
l 526 l
Expenses
                0.0345508
| 530 |
        2022 |
                   334 | 64.9797 | 0.00045011 | Household Help
    -0.0652237
        2022 |
                   396 |
                           96.3681 | 0.0120208 | Bags Suitcases And
| 568 |
Other Products |
                -0.180645
        2022 |
                            96.027 | 0.0199125 | Personal Products
| 565 |
                  393 |
                -0.327348
And Cosmetics
                            65.3229 | 0.0062701 | Books And Stationery
| 552 |
        2022 |
                  372 |
    -0.89967 |
                            87.1616 | 0.020429
| 545 |
        2022 |
                   358 |
                                              | Footwear
    -1.08523
                            73.7992 | 0.0139478 | Vegetable Oils And
| 508 |
        2022 |
                   301 |
Products |
                -1.51212
| 562 |
       2022 |
                   385 |
                            80.7685 | 0.0209617
                                              | Mail Telephone And
Communication |
                -1.66804
                            90.0981 | 0.0759968
                                              | Vehicle Expenses
I 560 I
        2022
                   383 |
    -3.11372
| 551 |
        2022 l
                   371 |
                           69.8089 | 0.0344173 | Education Services
    -4.29955
| 507 |
       2022 I
                  300 |
                            165.711 | 0.0657057 | Bread Grains and
Pastries |
                 17.8652
                   381 |
                            196.857 | 0.0228458
| 558 |
        2022 |
                                              | Public
Transportation
                   9.15593
        2022 |
                   304 l
                           136.263 | 0.0582873
                                              | Dairy Products And
| 511 |
Eggs
        1
                 8.74583
| 525 |
       2022 |
                   322 |
                          130.47 | 0.0578095
                                              | Monthly Rent
     7.28839
                   302 | 121.574 | 0.0734852
| 509 |
        2022 |
                                              | Meat And Poultry
     6.55981
                   312 | 140.573 | 0.0358719
                                              | Fresh Vegetables
| 518 |
        2022 |
     6.02222
                   364 |
                           157.418 | 0.0248076
                                              | Other Health
| 550 |
        2022 |
Expenses
               5.89389
                             | 513 | 2022 |
                   306 | 169.199 | 0.0174946
                                              | Soft Drinks
     5.0092
l 528 l
        2022 |
                   332 |
                          117.478 | 0.0550543 | Electricity Gas And
Fuel For Home |
                3.98147
| 516 |
        2022 |
                   309 |
                            126.185 | 0.0334603 | Various Food
Products
                      3.62539
                             - 1
Top 10 contributors to price index for 2:
```

```
-----+
   | Year | prodcode | price_index | weight | description
  contribution |
-----|
                         77.3388 | 0.00507101 | Furniture
       2022
                  341 |
     -0.456414
| 551 |
       2022 I
                  371 | 96.0185 | 0.043361 | Education Services
     -0.68569
                  396 |
                         83.8245 | 0.0109421 | Bags Suitcases And
| 567 |
       2022 |
                  -0.702977 |
Other Products
| 560 |
       2022 |
                            50.7974 | 0.00392297 | Other Transportation
                  384 |
                     -0.766628 |
Expenses
                            78.804 | 0.0138561 | Vegetable Oils And
| 508 |
       2022
                  301 |
                        -1.16647
Products
                  2022 |
| 555 |
                  375 l
                            32.0622 | 0.00508263 | Durable Culture And
Entertainment Products |
                       -1.37145
       2022 |
                  362 |
                           65.0189 | 0.0103623 | Dental Care
     -1.43969
l 540 l
       2022 l
                  353 l
                         73.4165 | 0.014271 | Childrens And Infants
Outerwear
                     -1.50678
| 559 |
                  383 |
       2022
                            94.7416 | 0.0852648 | Vehicle Expenses
     -1.78076
| 561 |
       2022 |
                  385 l
                          66.032 | 0.0156225 | Mail Telephone And
Communication
                  -2.10767 |
| 509 |
       2022 |
                          155.503 | 0.0724602 | Meat And Poultry
                  302 |
     15.9734
| 507 |
       2022 |
                  300 |
                          146.343 | 0.0595867 | Bread Grains and
                    10.9676
Pastries
                                | 525 |
       2022 |
                  322
                          158.923 | 0.039831
                                            | Monthly Rent
      9.32147
| 558 | 2022 |
                  381 |
                       201.461 | 0.0219503 | Public Transportation
      8.84551
| 511 | 2022 |
                  304 |
                          135.387 | 0.0548356 | Dairy Products And
                        7.70712
Eggs
                  | 532 | 2022 |
                  336
                           233.923 | 0.0136698 | Municipal Taxes
      7.27105
| 518 | 2022 |
                  312 l
                          140.801 | 0.0341586 | Fresh Vegetables
      5.53541
       2022 I
                           279.459 | 0.00766872 | Legal And Other
| 565 |
                  394
Services
                    5.46599
                  332 |
| 528 |
                           121.263 | 0.0583551 | Electricity Gas And
       2022
Fuel For Home
                        4.92807 |
| 513 |
       2022 |
                  306 l
                           172.135 | 0.0167598 | Soft Drinks
      4.80167
----+
```

Top 10 contributors to price index for 3:

```
-----+
       Year |
              prodcode | price_index | weight | description
   contribution |
-----|
                  357 |
                           23.088 | 0.000408736 | External Cleaning
And Laundry
                -0.100738
| 555 |
                 374 |
                           94.8722 | 0.0065029 | Recreation Vacation
       2022 |
                    -0.106855
And Trips
               344 |
                           93.6702 | 0.00670396 | Bed Linens And
| 537 |
       2022 |
Towels
                  -0.13598 |
                  324 |
| 527 |
       2022 |
                           37.1898 | 0.000876978 | Other Housing
                   Expenses
                        -0.176511
                  363 |
| 550 |
       2022 |
                           87.4422 | 0.00629067 | Health Services
Expenses
                       -0.253143
                  1
| 569 |
       2022 |
                  396 |
                           91.416 | 0.00993316 | Bags Suitcases And
                     -0.273233 |
Other Products
l 562 l
       2022 |
                  384 |
                           76.8486 | 0.00414743 | Other Transportation
Expenses
                   -0.307688 I
| 541 |
       2022 I
                  353 l
                           86.5683 | 0.0159454
                                             | Childrens And
Infants Outerwear
                         -0.686314 |
                  l 549 l
       2022 l
                  362 l
                          58.7962 | 0.0185862
                                             | Dental Care
     -2.45405
                  322 |
| 526 |
       2022
                        78.2016 | 0.0472554
                                             | Monthly Rent
     -3.30089
                  373 l
| 554 |
       2022 |
                         1614.47
                                  | 0.00515237 | Culture Sports And
                     25.0047
Entertainment Events |
| 510 |
       2022 |
                  302 |
                           135.444 | 0.0618777
                                             | Meat And Poultry
     7.02793
| 508 |
       2022 I
                  300
                           132.22
                                  0.0585336
                                             | Bread Grains and
                       6.04346
Pastries
| 561 |
       2022 |
                  383 |
                           115.043 | 0.117436
                                             | Vehicle Expenses
     5.66096
| 512 |
       2022 |
                        127.892 | 0.0529982
                  304 |
                                             | Dairy Products And
                      4.73691
Eggs
                           136.904 | 0.0348091
| 529 |
       2022 |
                  332 |
                                             | Electricity Gas And
Fuel For Home
                     4.1164
                            | 551 |
                  364 l
                           142.422 | 0.0290644
                                             | Other Health
       2022
                           3.95102 |
Expenses
                     | 533 |
                  336
                           169.675 | 0.0171791
                                             | Municipal Taxes
       2022 |
      3.83556
| 516 |
       2022 |
                  308 | 134.219 | 0.028262
                                             | Meals Outside Home
      3.09906
| 514 |
       2022 |
                  306 | 159.856 | 0.0159266
                                            | Soft Drinks
      3.05481
```

Top 10 contributors to						
Year prod contribution	lcode 1	+ orice_index	I	weight	I	description
		•		0.00500400		0.1
565 2022 Expenses			ı	0.00538498	ı	Uther Transportation
524 2022			ı	0.00216788	ı	Frozen Vegetables
-0.047787	·		·			0
		87.5169	-	0.00533282		Culture Sports And
Entertainment Events						
543 2022	352	93.9517	ı	0.0214993	١	Womens Outerwear
-0.553728 530 2022	32/L	7 350/13	1	0 001/19106	1	Other Housing
Expenses		-0.58821		0.00149100	'	Other Housing
564 2022				0.110544	ı	Vehicle Expenses
-0.70747						•
561 2022	378	54.9442	-	0.00532631	1	Computer Internet And
·	-1.02193	•				
558 2022				0.0131428		Recreation Vacation
-	-1.373			0.00704000		B
537 2022 -2.45391	341	26.2936	ı	0.00781839	ı	Furniture
	333 l	54.7657	ı	0 0535486	ı	Home Maintenance And
Renovation			'	0.0000400	'	nome namitenance and
529 2022			ı	0.041837	Ι	Monthly Rent
10.1358						v
532 2022	332	174.362	-	0.0297418	1	Electricity Gas And
	9.417					
511 2022				0.0562135		Bread Grains and
Pastries	8					
513 2022	302	136.765	ı	0.0552556	١	Meat And Poultry
8.65053 515 2022	304	125.76	1	0 05/8530	1	Dairy Products And
	6.01		'	0.0340339	'	Daily Floudets And
562 2022	381		ı	0.0194252	ı	Public Transportation
5.42887	,		•		•	1
554 2022	364	136.115		0.0309768	1	Other Health Expenses
4.76391						
522 2022	312	133.492		0.0300918	1	Fresh Vegetables
4.29166						
519 2022	308	129.934	1	0.0325456	1	Meals Outside Home
4.14853	262 I	262 260	ı	0 00571700	ı	Uaalth Carriaga
553 2022 Expenses		263.369 3.97734	ı	0.005/1/22	ı	Health Services
++			-+-		-+-	

Top 10 contributors to price index for 5:

-----| Year | prodcode | price index | weight | description contribution | |----+----------311 | 68.3195 | 0.00418857 | Potatoes And Sweet | 521 | 2022 Potatoes -0.348135 73.4694 | 0.00601511 | Other Transportation | 565 | 2022 | 384 | -0.418679 | Expenses 93.3452 | 0.0268784 | Personal Products And | 569 | 393 2022 | -0.469277 Cosmetics | 558 | 2022 | 374 | 87.7005 | 0.0146868 | Recreation Vacation And Trips -0.473919 | | 537 | 2022 | 341 | 51.9326 | 0.00551205 | Furniture -0.69511 | 2022 | 375 | | 559 | 53.545 | 0.00763875 | Durable Culture And Entertainment Products | -0.93099 I 358 l 2022 I 81.4213 | 0.0208434 | Footwear -1.01596 | 544 | 2022 I 353 l 71.2283 | 0.0159023 | Childrens And Infants Outerwear -1.20036 | 552 | 2022 | 362 51.8311 | 0.0113451 | Dental Care -1.43372 | 543 | 2022 | 352 79.9802 | 0.0294551 | Womens Outerwear -1.54706 | 560 | 2022 | 376 l 577.531 | 0.0205855 | Hobbies Sports Equipment And Camping 25.7901 | 564 | 2022 | 383 129.75 0.122034 | Vehicle Expenses 9.52485 | 536 | 2022 | 336 208.953 | 0.0265012 | Municipal Taxes 7.5752 | 513 | 2022 | 302 138.5 | 0.0544378 | Meat And Poultry 5.49861 | 2022 | | 554 | 364 157.455 | 0.0326529 | Other Health Expenses 4.92193 | | 511 | 2022 | 300 I 132.345 | 0.0548878 | Bread Grains and Pastries 1 4.65768 | | 515 | 304 | 133.441 | 0.0523265 | Dairy Products And 2022 | 4.59082 Eggs | 555 | 2022 | 371 | 137.381 | 0.0412449 | Education Services 4.04494 308 | | 519 | 2022 | 137.133 | 0.0391086 | Meals Outside Home 3.80998 | 527 | 2022 | 317 | 295.155 | 0.00659449 | Dried Fruits 3.37638

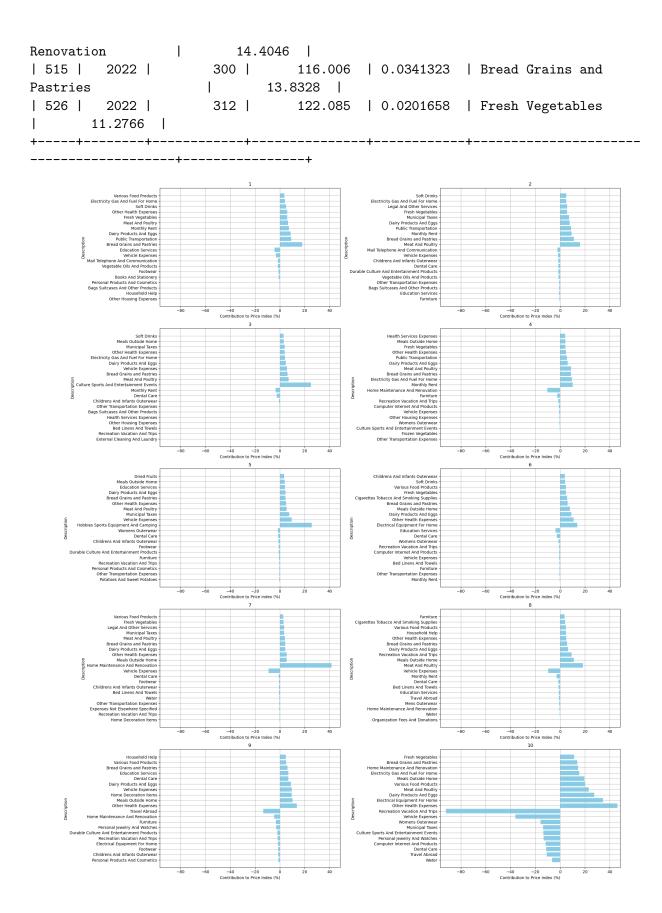
```
----+
Top 10 contributors to price index for 6:
Year |
               prodcode | price_index | weight | description
   contribution |
l 529 l
        2022
                   322 |
                             97.6119 | 0.0298816 | Monthly Rent
     -0.329188 |
        2022 |
                             82.6941 | 0.00722213 | Other Transportation
| 565 |
                   384 |
Expenses
               -0.576553 |
| 537 |
                             88.8822 | 0.0117877 | Furniture
        2022
                   341
     -0.604546
        2022 |
                   344 |
                            56.1787 | 0.00328715 | Bed Linens And Towels
| 540 |
     -0.664484 |
| 564 |
        2022 |
                   383 |
                             98.7463 | 0.123579
                                              | Vehicle Expenses
     -0.714699
l 561 l
        2022 I
                   378 I
                             63.2925 | 0.00465698 | Computer Internet And
Products
                    -0.788568
| 558 |
                   374 |
                                    | 0.00930887 | Recreation Vacation
        2022
                             79.47
And Trips
                      -0.881587 |
| 543 |
                             89.6381 | 0.0251565 | Womens Outerwear
        2022
                   352 l
     -1.20245
                             38.3627 | 0.00933863 | Dental Care
| 552 |
        2022 |
                   362 |
     -2.65525 |
        2022 |
| 555 |
                   371 |
                            78.8452 | 0.0388103 | Education Services
     -3.78734
| 538 |
        2022 |
                   342
                            496.447 | 0.00757378 | Electrical Equipment
For Home
               13.8509
                             | 554 |
        2022 |
                   364 |
                            168.426 | 0.0343708 | Other Health Expenses
     10.8491
        2022 |
                   304 |
                            136.18
                                    | 0.0541998 | Dairy Products And
| 515 |
                       9.04576
Eggs
                   308 |
| 519 |
        2022
                            138.813 | 0.0443525 | Meals Outside Home
      7.94098
| 511 |
        2022 I
                   300 l
                            124.124 | 0.0537443 | Bread Grains and
Pastries
                         5.98071 |
                            155.911 | 0.0219419 | Cigarettes Tobacco
| 567 |
        2022
                   391 |
                       5.65912
And Smoking Supplies |
                   312
                            136.566 | 0.027654
| 522 |
        2022
                                              | Fresh Vegetables
      4.66465
                            130.384 | 0.0329374 | Various Food Products
| 520 |
        2022
                   309
      4.61653
| 517 |
        2022 |
                   306 |
                            164.04
                                    0.013668
                                              | Soft Drinks
      4.03773
| 544 |
        2022 |
                   353 |
                           169.659 | 0.0115679 | Childrens And Infants
```

Outerwear	3.717					
			-+-		-+-	
Top 10 contributor						
			-+-		-+-	
Year contribution	prodcode 	_		_		description
			-+-		-+-	
	345	92.6014	I	0.00746788	I	Home Decoration Items
559 2022	374	96.1977	1	0.0159628	1	Recreation Vacation
And Trips						
575 2022				0.00516483		Expenses Not
Elsewhere Specifie						
			ı	0.00471865	١	Other Transportation
Expenses				0.00000047		T7 .
532 2022 -0.564184		77.2536	ı	0.00696647	ı	Water
541 2022	•	62 6433	ı	0 00/68132	1	Bed Linens And Towels
-0.622634		02.0400	'	0.00400132	'	Ded Linens and lowers
545 2022		79.9263	ı	0.0100732	ı	Childrens And Infants
Outerwear		,,,,,	•		·	
550 2022		86.0458	1	0.0149745	1	Footwear
-0.743963	I					
553 2022	362	59.7104	1	0.00616431	1	Dental Care
-0.884247	l					
565 2022	383	80.2534		0.128534		Vehicle Expenses
-9.03664						
		797.094	I	0.0167881		Home Maintenance And
Renovation						
520 2022		127.652	ı	0.0560296	١	Meals Outside Home
5.51617		440.050				0.1 7 7.1 7
555 2022		146.956	ı	0.0320596	ı	Other Health Expenses
5.35972 516 2022	304	123.9		0 0517/10	1	Dairy Products And
Eggs			'	0.0317412	ı	Daily Floducts And
512 2022			ı	0 0506323	ı	Bread Grains and
Pastries	4.23834		'	0.0000020	'	breau drains and
514 2022	!	125.319	ı	0.045075	ı	Meat And Poultry
4.06323			•		•	,
537 2022	336	129.876	ı	0.0328012	I	Municipal Taxes
3.48909						•
571 2022		336.968	1	0.00409595	1	Legal And Other
Services	3.4557	4 l				
523 2022	312	133.845		0.0241659		Fresh Vegetables
2.91198	l					

```
| 521 | 2022 | 309 | 122.48 | 0.0351829 | Various Food Products
     2.8159
-----+
Top 10 contributors to price index for 8:
| Year | prodcode | price_index | weight | description
| contribution |
-----|
       2022 |
                 397 |
                          88.6832 | 0.00361639 | Organization Fees And
| 572 |
Donations |
                 -0.208146 |
| 530 | 2022 |
                 331 | 81.8614 | 0.00484465 | Water
    -0.446925
                 333 | 93.0336 | 0.0175163 | Home Maintenance And
| 532 | 2022 |
Renovation
            -0.620609 |
| 541 | 2022 |
                 351 | 89.5536 | 0.0136713 | Mens Outerwear
    -0.726348
                 382 | 75.8641 | 0.00788751 | Travel Abroad
| 562 | 2022 |
    -0.968217
                 371 | 95.1732 | 0.0418126 | Education Services
| 554 | 2022 |
    -1.02645
| 539 | 2022 |
                 344 | 60.3755 | 0.006114 | Bed Linens And Towels
    -1.23213
| 551 | 2022 |
                 362 | 80.9212 | 0.0152811 | Dental Care
    -1.48277
                 322 | 78.8222 | 0.0257416 | Monthly Rent
| 528 | 2022 |
    -2.77259
| 563 | 2022 |
                 383 | 83.6339 | 0.115968 | Vehicle Expenses
    -9.65277 |
| 512 |
       2022 |
                 302 | 184.815 | 0.0424111 | Meat And Poultry
     18.2945 |
                 308 | 136.664 | 0.0589785 | Meals Outside Home
| 518 |
       2022 |
    10.9977
       2022 |
| 557 |
                 374 |
                         196.989 | 0.0188404 | Recreation Vacation
And Trips
                    9.2936
| 514 | 2022 |
                 304 l
                         125.034 | 0.0496635 | Dairy Products And
                    6.32312 |
Eggs
                 300 |
                         122.497 | 0.0482854 | Bread Grains and
| 510 |
       2022
Pastries
                      5.52482
| 553 | 2022 |
                 364 l
                       133.146 | 0.0285607 | Other Health Expenses
     4.81474
                 334 | 171.816 | 0.0126775 | Household Help
| 533 |
       2022
     4.63043
| 519 | 2022 |
                 309 | 129.335 | 0.0306021 | Various Food Products
     4.56569
| 566 | 2022 |
               391 | 153.696 | 0.0145115 | Cigarettes Tobacco
```

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And Smoking Supplies | 3.96297 |
       2022 |
                  341 | 148.323 | 0.0142563 | Furniture
| 536 |
      3.5037
+----+
-----+
Top 10 contributors to price index for 9:
------
       Year | prodcode | price_index | weight | description
  contribution |
-----|
                  393 |
| 569 |
       2022 |
                           93.5576 | 0.0242754 | Personal Products And
                     -1.09387
Cosmetics
| 544 |
       2022 |
                  353 |
                           73.2563 | 0.00711381 | Childrens And Infants
Outerwear
                    -1.33069
               1
| 549 |
       2022 |
                  358 |
                        85.54 | 0.0139619 | Footwear
     -1.41209
                  342 | 80.6543 | 0.0113841 | Electrical Equipment
       2022 |
| 538 |
For Home
                      -1.54041 |
                           88.3439 | 0.0222852 | Recreation Vacation
| 558 |
       2022 I
                  374 l
                       -1.81685
And Trips
l 559 l
       2022 I
                  375 l
                           64.0367 | 0.00806517 | Durable Culture And
Entertainment Products |
                       -2.02873
| 571 | 2022 |
                  395 |
                           38.7561 | 0.0070282 | Personal Jewelry And
                      -3.01064 |
Watches
| 537 | 2022 |
                  341 l
                           64.3972 | 0.0126106 | Furniture
     -3.14032
| 533 | 2022 |
                  333 |
                        84.0344 | 0.0412043 | Home Maintenance And
Renovation
                      -4.6013
l 563 l
       2022 |
                  382 l
                          20.1363 | 0.0238958 | Travel Abroad
     -13.3482
| 554 | 2022 |
                  364 | 151.332 | 0.0376981 | Other Health Expenses
     13.535
| 519 | 2022 |
                  308 | 121.405 | 0.0684936 | Meals Outside Home
      10.2546
                          260.121 | 0.00851367 | Home Decoration Items
| 541 | 2022 |
                  345 |
     9.53492 |
| 564 | 2022 |
                  383 | 111.684 | 0.115749 | Vehicle Expenses
      9.45967 I
| 515 | 2022 |
                  304
                         127.343 | 0.0467775 | Dairy Products And
                        8.94601
                  1
Eggs
| 552 | 2022 |
                  362 |
                          187.544 | 0.0112604 | Dental Care
     6.89497
| 555 | 2022 |
                  371 |
                         141.212 | 0.0234073 | Education Services
      6.74727 l
| 511 | 2022 |
                  300 | 120.652 | 0.0427303 | Bread Grains and
Pastries
                   6.17226
```

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309 | 125.124 | 0.0280384 | Various Food Products
| 520 | 2022 |
      4.92716 |
| 534 | 2022 |
                 334 | 144.178 | 0.0153774 | Household Help
      4.75157 |
-----+
Top 10 contributors to price index for 10:
----+
   | Year | prodcode | price_index | weight | description
  contribution |
-----|
       2022 |
                 331 | 50.7955 | 0.005263 | Water
     -6.55683 |
       2022 |
                 382 | 77.5372 | 0.0189195 | Travel Abroad
| 565 |
    -10.7604
| 554 |
       2022 |
                 362 | 72.8136 | 0.0164723 | Dental Care
     -11.3387
l 563 l
       2022 l
                 378 | 45.5459 | 0.00840892 | Computer Internet And
Products |
                  -11.5938
                          37.5508 | 0.00833991 | Personal Jewelry And
| 573 |
       2022
                 395
Watches
                  -13.1869 l
l 559 l
       2022 I
                          79.369 | 0.0259908 | Culture Sports And
                 373 I
Entertainment Events
                  -13.5767 |
| 538 |
       2022 |
                 336 |
                          78.2253 | 0.0248128 | Municipal Taxes
    -13.6799
| 545 |
       2022 |
                 352 |
                       77.8253 | 0.0282533 | Womens Outerwear
     -15.8629
| 566 |
       2022 |
                 383 |
                         90.1587 | 0.144569 | Vehicle Expenses
     -36.0233
| 560 |
       2022 |
                 374 | 40.2861 | 0.0608573 | Recreation Vacation
                   -92.0118 |
And Trips
                 364 | 157.659 | 0.0315173 | Other Health Expenses
| 556 |
       2022 |
     46.0116
| 540 |
       2022 I
                 342
                         195.292 | 0.0142563 | Electrical Equipment
For Home
                   34.3969
             | 519 |
                 304 l
                         127.72 | 0.0391882 | Dairy Products And
       2022
                     27.5045
Eggs
                         126.823 | 0.0339218 | Meat And Poultry
| 517 |
       2022
                 302 l
     23.0376
| 524 |
      2022 |
                 309 | 133.841 | 0.0234427 | Various Food Products
     20.0864
                 308 | 110.065 | 0.0763425 | Meals Outside Home
| 523 |
       2022
     19.4558
| 534 |
       2022 I
                 332 | 135.137 | 0.0173451 | Electricity Gas And
                    15.4313
Fuel For Home
| 535 |
       2022 |
                 333 | 122.456 | 0.0253341 | Home Maintenance And
```



++			+	-+	
+-					
	rodcode pr	rice_index	weight		description
contribution					
•			+	-+	
+-		•			
			0.0189136		Personal Products And
Cosmetics					
		70.9441	0.00367218	-	Bed Linens And Towels
-0.489877					
547 2022	358	93.6569	0.0241719	-	Footwear
-0.703948					
564 2022	385	89.7023	0.0262741	-	Mail Telephone And
-0.703948 564 2022 Communication	-1.242	221			
561 2022	382	53.3917	0.00665749	-	Travel Abroad
-1.42463					
553 2022	371	92.9469	0.0461575	-	Education Services
-1.49469					
510 2022			0.0136197	-	Vegetable Oils And
Products					
530 2022	332	92.043	0.0633869	-	Electricity Gas And
Fuel For Home	-2.3156	38			
550 2022	362	62.4015	0.0139043	-	Dental Care
-2.40021					
541 2022	352	75.6173	0.0288471	-	Womens Outerwear
-3.22933					
511 2022	302	161.56	0.0848917	-	Meat And Poultry
23.9936					
509 2022	300	193.47	0.0488368	-	Bread Grains and
Pastries	20.9	9578			
562 2022	383	113.696	0.140683	-	Vehicle Expenses
8.8466					
513 2022	304	135.071	0.0392572	-	Dairy Products And
513 2022 Eggs 555 2022	6.32	116			
555 2022	373	500.306	0.00330758	-	Culture Sports And
Entertainment Events	6.079	9			

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306 | 167.245 | 0.0163228 | Soft Drinks
| 515 | 2022 |
     5.03947 |
| 534 | 2022 |
                 336 | 166.163 | 0.0131815 | Municipal Taxes
     4.00412
                 312 | 124.196 | 0.0335039 | Fresh Vegetables
| 520 | 2022 |
     3.72188
                 391 | 123.803 | 0.0296201 | Cigarettes Tobacco
| 565 | 2022 |
And Smoking Supplies | 3.23706 |
| 517 | 2022 |
                 308 l
                         131.57 | 0.0207294 | Meals Outside Home
     3.00463 |
----+
Top 10 contributors to price index for 2:
-----+
   | Year | prodcode | price_index | weight | description
  contribution |
| 566 |
                 392 l
                          92.2932 | 0.00807464 | Personal Services And
       2022 I
              | -0.32376 |
Cosmetics
| 540 | 2022 |
                 351 | 93.1688 | 0.0109057 | Mens Outerwear
-0.387591
| 559 |
       2022 I
                 378 | 82.5418 | 0.00441163 | Computer Internet And
Products
               l -0.400701 l
| 538 |
                 344 | 74.1673 | 0.004918 | Bed Linens And Towels
       2022 |
    -0.660969
| 557 | 2022 |
                 375 l
                         55.9484 | 0.00476861 | Durable Culture And
Entertainment Products | -1.09289 |
| 541 |
       2022 |
                352 l
                          87.8349 | 0.0195504 | Womens Outerwear
    -1.23735 |
                 374 |
| 556 | 2022 |
                        73.2953 | 0.0117894 | Recreation Vacation
And Trips
                 | -1.63797 |
| 542 |
                 353 |
                          77.0894 | 0.0139869 | Childrens And Infants
       2022
                    -1.66717
Outerwear
| 531 | 2022 |
                 333 |
                          81.5898 | 0.0200907 | Home Maintenance And
Renovation
                    -1.92432
| 562 | 2022 |
                 383 l
                         86.2482 | 0.143409
                                          | Vehicle Expenses
   -10.2603 |
                 332 | 150.265 | 0.0400119 | Electricity Gas And
| 530 |
       2022 I
Fuel For Home
                10.4635
| 517 |
       2022 |
                 308 | 175.787 | 0.0264344 | Meals Outside Home
    10.4229
       2022 |
                 300 l
                        137.048 | 0.0516882 | Bread Grains and
| 509 |
Pastries
                  - 1
                         9.96271
| 511 | 2022 |
                 302 | 128.232 | 0.057717 | Meat And Poultry
     8.47747
| 513 | 2022 |
                304 | 126.901 | 0.0468789 | Dairy Products And
```

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6.56099
Eggs
                 309 I
                          135.444 | 0.030269 | Various Food Products
| 518 | 2022 |
     5.58162
| 515 | 2022 |
                 306 | 175.43 | 0.0136333 | Soft Drinks
     5.35023 |
| 552 |
       2022 |
                 364 | 133.971 | 0.0296105 | Other Health Expenses
     5.23331
| 560 | 2022 |
                 381 l
                      148.672 | 0.0203753 | Public Transportation
     5.15948
| 569 | 2022 |
                 395 | 513.814 | 0.00235069 | Personal Jewelry And
Watches
                1
                      5.06086
-----+
Top 10 contributors to price index for 3:
Year |
              prodcode | price_index | weight | description
  contribution |
-----|
l 545 l
       2022 |
                 352 | 98.9802 | 0.0240724 | Womens Outerwear
 -0.0917955 |
                 378 | 59.4512 | 0.00185987 | Computer Internet And
| 563 | 2022 |
Products
                 -0.281996
l 533 l
       2022
                  331 l
                      85.6396 | 0.00737733 | Water
    -0.39614
| 566 |
       2022 |
                 383 | 98.8831 | 0.108132 | Vehicle Expenses
    -0.4516
| 565 |
       2022 |
                 382 | 84.301 | 0.00862117 | Travel Abroad
    -0.506082
l 542 |
       2022 |
                 344 | 61.7979 | 0.00626812 | Bed Linens And Towels
    -0.895378
                  341 | 81.2189 | 0.0136645 | Furniture
| 539 |
       2022 |
    -0.959614
       2022 |
                          59.4762 | 0.00657219 | Personal Jewelry And
| 573 |
                 395 |
Watches
              -0.995871
| 568 |
                          69.8652 | 0.0134768 | Mail Telephone And
       2022
                  385 |
                   -1.51857 |
Communication
l 554 l
       2022 |
                  362 | 46.7769 | 0.00903736 | Dental Care
    -1.79856 |
| 540 |
       2022 |
                 342 |
                          391.398 | 0.0162723 | Electrical Equipment
For Home
             17.7303
                          | 556 |
       2022 |
                 364 |
                         171.929 | 0.0320574 | Other Health Expenses
     8.62208
                 302 | 146.674 | 0.047017 | Meat And Poultry
| 515 |
       2022 |
     8.20569 I
                 373 | 285.134 | 0.0106836 | Culture Sports And
| 559 |
       2022 |
Entertainment Events | 7.39581
```

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2022 |
                 304 | 134.964 | 0.0546214 | Dairy Products And
| 517 |
                   7.14119
Eggs
                 308 | 133.897 | 0.0428703 | Meals Outside Home
| 521 |
       2022 |
    5.43377
       2022 I
                 333 | 151.461 | 0.0251853 | Home Maintenance And
l 535 l
Renovation
            4.84628
| 513 |
       2022 |
                 300 |
                        123.432 | 0.0525353 | Bread Grains and
                1 4.60294
Pastries
                            309 | 126.371 | 0.0319985 | Various Food Products
| 522 | 2022 |
    3.15525 |
       2022 |
| 564 |
                 381 | 153.695 | 0.015318 | Public Transportation
     3.0755
----+
Top 10 contributors to price index for 4:
-----+
   | Year | prodcode | price_index | weight | description
  contribution |
|----+-----
-----|
| 525 |
       2022 l
                 311 | 83.7636 | 0.00301799 | Potatoes And Sweet
               | -0.3664 |
Potatoes
| 545 | 2022 |
                 345 | 91.4345 | 0.00817238 | Home Decoration Items
    -0.523417 |
                 378 | 85.8326 | 0.00545572 | Computer Internet And
       2022 |
| 565 |
Products
                 -0.577952
| 553 |
                        94.8496 | 0.0164294 | Footwear
       2022 |
                 358 l
    -0.632725
                 384 | 85.2357 | 0.00699941 | Other Transportation
| 569 |
       2022 |
                  -0.772723 l
Expenses
            | 546 |
       2022 |
                 351 | 89.3609 | 0.0107864 | Mens Outerwear
    -0.858081 |
| 547 |
       2022 |
                 352 | 92.1818 | 0.024205 | Womens Outerwear
    -1.41502
| 537 | 2022 |
                 333 | 89.4631 | 0.0260273 | Home Maintenance And
Renovation
                 -2.05065
| 567 | 2022 |
                 382 l
                          44.4381 | 0.0141145 | Travel Abroad
    -5.86395
       2022 I
                 374 |
                          71.6668 | 0.0381526 | Recreation Vacation
| 562 |
                  -8.08291 |
And Trips
              | 568 |
       2022 |
                 383 | 114.902 | 0.116307 | Vehicle Expenses
     12.9595
                 308 | 121.479 | 0.0706051 | Meals Outside Home
| 523 |
       2022 |
    11.3399
| 519 |
       2022 |
                 304 l
                       122.869 | 0.0455402 | Dairy Products And
Eggs
                    7.78723
| 558 | 2022 |
                 364 | 131.669 | 0.0318169 | Other Health Expenses
```

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7.53433
                 342 | 177.948 | 0.0120305 | Electrical Equipment
| 542 |
       2022 |
                    7.01189
For Home
             | 540 |
       2022 |
                 336 | 154.438 | 0.0165106 | Municipal Taxes
     6.7207
| 533 |
       2022 |
                 322 | 119.826 | 0.0420634 | Monthly Rent
     6.23569
| 515 | 2022 |
                 300
                          118.932 | 0.0427711 | Bread Grains and
Pastries
                       6.05474
                 309 |
                          121.667 | 0.0277758 | Various Food Products
| 524 | 2022 |
     4.49992 |
       2022 |
                 391 |
                          153.433 | 0.0107638 | Cigarettes Tobacco
| 571 |
                     4.30053
And Smoking Supplies |
-----+
Top 10 contributors to price index for 5:
----+
| Year | prodcode | price_index | weight | description
| contribution |
|----+-----
| 515 |
       2022
                 317 l
                        137.681 | 0.00513498 | Dried Fruits
    -0.684557
| 543 | 2022 |
                 373 l
                        142.554
                                 | 0.00600541 | Culture Sports And
Entertainment Events | -0.904112 |
| 510 | 2022 |
                 312 |
                         124.948
                                 | 0.0163164 | Fresh Vegetables
    -1.44013
| 511 |
       2022 |
                 313 | 134.786
                                 | 0.0130198 | Fresh Fruits
     -1.60231
| 507 |
       2022 |
                 308 |
                       108.945
                                 | 0.053324 | Meals Outside Home
     -1.68754
       2022 |
                                 | 0.0326011 | Bread Grains and
| 499 |
                 300 l
                         115.536
Pastries
                     -1.79188
| 505 |
                 306 |
                         186.216
                                 | 0.00638313 | Soft Drinks
       2022 |
    -1.947
                  304 |
                                 | 0.0337396 | Dairy Products And
| 503 |
       2022 |
                         124.259
                    -2.89577 |
Eggs
| 521 |
                  334 |
                         124.873
                                 | 0.0371449 | Household Help
       2022
     -3.26867 I
                                 | 0.00622345 | Pickled And Preserved
| 513 |
       2022 |
                 315 |
                       455.735
Vegetables
                  -7.83251
| 549 |
       2022 |
                  383 | 41.9836 | 0.335614 | Vehicle Expenses
     68.8865 |
       2022 |
                 336 | 24.9893 | 0.0894082 | Municipal Taxes
| 523 |
     23.727
| 540 | 2022 |
                 364 | 42.4875 | 0.0352125 | Other Health Expenses
     7.16477
```

